```
     FILE 'HCAPLUS' ENTERED AT 10:47:29 ON 05 AUG 2008
L1          8518 S (BETA GLUCAN) OR (B)(3A)GLUCAN
L2        135487 S BRANCHED OR BRANCHING
L3        355831 S ANTIBODY OR IMMUNOGLOBULIN
L4           503 S L1 AND L2
L5            32 S L1 AND L2 AND L3
L6            17 S L5 AND (PY<2002 OR AY<2002 OR PRY<2002)

     FILE 'STNGUIDE' ENTERED AT 10:49:02 ON 05 AUG 2008

     FILE 'HCAPLUS' ENTERED AT 10:55:47 ON 05 AUG 2008
L7             0 S LENTINAN AND SCHIZOPHYLLAN AND GRIFOLAN AND PSK
L8            92 S LENTINAN AND SCHIZOPHYLLAN
L9             5 S L8 AND PSK
L10       848650 S CANCER OR TUMOR OR NEOPLA?
L11          137 S L4 AND L10
L12           10 S L11 AND ANTIBODY
L13            4 S L12 AND (PY<2002 OR AY<2002 OR PRY<2002)
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=> file hcaplus
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                                                         ENTRY    SESSION
FULL ESTIMATED COST                                       0.21       0.21

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FILE COVERS 1907 - 5 Aug 2008  VOL 149 ISS 6
FILE LAST UPDATED: 4 Aug 2008  (20080804/ED)

HCAplus now includes complete International Patent Classification (IPC)
reclassification data for the second quarter of 2008.

New CAS Information Use Policies, enter HELP USAGETERMS for details.

 This file contains CAS Registry Numbers for easy and accurate
 substance identification.

=> s (beta glucan) or (β)(3a)glucan
       1549078 BETA
         16208 GLUCAN
          5173 BETA GLUCAN
                 (BETA(W)GLUCAN)
       1549078 B
                 (BETA)
         16208 GLUCAN
          8518 (B)(3A)GLUCAN
L1        8518 (BETA GLUCAN) OR (B)(3A)GLUCAN

=> s branched or branching
         83340 BRANCHED
         58980 BRANCHING
L2      135487 BRANCHED OR BRANCHING

=> s antibody or immunoglobulin
        333404 ANTIBODY
         32354 IMMUNOGLOBULIN
L3      355831 ANTIBODY OR IMMUNOGLOBULIN

=> s l1 and l2
L4         503 L1 AND L2

=> s l1 and l2 and l3
L5          32 L1 AND L2 AND L3

=> s l5 and (PY<2002 or AY<2002 or PRY<2002)
      21964543 PY<2002
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       4211254 AY<2002
       3678044 PRY<2002
L6          17 L5 AND (PY<2002 OR AY<2002 OR PRY<2002)

=> d l6 1-17 ti abs bib

L6   ANSWER 1 OF 17  HCAPLUS  COPYRIGHT 2008 ACS on STN
TI   Covalent compound having affinity to immunocyte and use thereof
AB   A covalent compound having affinity to an immunocyte is provided which is
     useful as a vaccine preparation stimulating an antibody formation
     against a protein antigen having low antigenicity.  A covalent compound is
     prepared by covalently binding β-1,6- branched-.beta
     .-1,3-glucan (SC-glucan) to a protein having vaccine activities
     reducing the antibody formation against the protein or
     human-induced protein for ameliorating autoimmune diseases of the
     immunocyte.  The SC-glucan which is a polysaccharide having 1,000-100,000
     of mol. weight has affinity to a receptor of the immunocyte but does not have
     the antigenicity.
AN   2002:285248  HCAPLUS <<LOGINID::20080805>>
DN   136:284380
TI   Covalent compound having affinity to immunocyte and use thereof
IN   Park, Gyeong Mok; Park, Ham Yong; So, Seong; Yoon, Hui Je; Lee, Dong Cheol
PA   Pacific Co., Ltd., S. Korea
SO   Repub. Korean Kongkae Taeho Kongbo, No pp. given
     CODEN: KRXXA7
DT   Patent
LA   Korean
FAN.CNT 1
     PATENT NO.          KIND   DATE        APPLICATION NO.        DATE
     ---------------     ----   --------    --------------------   --------
PI   KR 2000052145        A     20000816    KR 1999-3048           19990130 <--
PRAI KR 1999-3048               19990130  <--

L6   ANSWER 2 OF 17  HCAPLUS  COPYRIGHT 2008 ACS on STN
TI   Enzyme-linked immunosorbent assay specific for (1→6)
     branched, (1→3)- β -D-glucan
     detection in environmental samples
AB   (1→3)-β-D-Glucans have been recognized as a potential
     causative agent responsible for bioaerosol-induced respiratory symptoms
     observed in both indoor and occupational environments.  A specific enzyme
     immunoassay was developed to quantify (1→6)  branched,
     (1→3)-β-D-glucans in environmental samples.  The assay was
     based on the use of a high-affinity receptor (galactosyl ceramide)
     specific for (1→3)-β-D-glucans as a capture reagent and a
     monoclonal antibody specific for fungal cell wall
     β-D-glucans as a detector reagent.  The assay was highly specific for
     (1→6)  branched, (1→3)-β-D-glucans (such as
     that from Saccharomyces cerevisiae) and did not show any response at 200
     ng/mL to curdlan, laminarin, pustulan, dextran, mannan, CM-cellulose, and
     endotoxins.  The detection level was 0.8 ng/mL for baker's yeast glucan
     and Betafectin.  A coefficient of variation of 7.8% was obtained for
     (1→3)-β-D-glucans in house dust samples.  Metal working fluids
     spiked with (1→3)-β-D-glucans inhibited the glucan assay.
     Because the assay is specific for (1→6)  branched,
     (1→3)-β-D-glucans and is sensitive and reproducible, it will
     be useful for the investigation of health effects from exposure to this
     class of biol. active mols.
AN   2001:893223  HCAPLUS <<LOGINID::20080805>>
DN   136:163578
TI   Enzyme-linked immunosorbent assay specific for (1→6)
     branched, (1→3)- β -D-glucan
```

detection in environmental samples
AU Milton, Donald K.; Alwis, K. Udeni; Fisette, Leslie; Muilenberg, Michael
CS Department of Environmental Health, Harvard School of Public Health, Boston, MA, 02115, USA
SO Applied and Environmental Microbiology (2001), 67(12), 5420-5424
CODEN: AEMIDF; ISSN: 0099-2240
PB American Society for Microbiology
DT Journal
LA English
RE.CNT 35 THERE ARE 35 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L6 ANSWER 3 OF 17 HCAPLUS COPYRIGHT 2008 ACS on STN
TI The preparation and use of antibodies to biologically active 1,3;1,6-. beta.-D-glucan, translam
AB The antibodies to biol. active 1,3; 1,6-β -D-glucan , translam, a product of the enzymic transformation of laminaran from Laminaria cichorioides, were obtained. A conjugate of translam and human serum albumin was prepared and used for rabbit immunization. The specificity of the antisera was studied with the help of competitive inhibiting of the ELISA using the conjugate bovine serum γ-globulin-translam as an antigen and laminarans with different structure (mol. weight and degree of branching) from brown seaweeds: translam, pustulan from Umbillicaria russica, and different 1,3;1 ,6-β-D-glucooligosaccharides, as inhibitors. The antiserum mainly contained the antibodies to glucan fragments with . beta.-1,3-glucoside bond and branching β-1,6-linked glucose residues, as well as the antibodies to linear β-1,3-linked glucose residues. The obtained antisera were used to study the differences between biosynthesized translams and initial laminarans.
AN 2001:132980 HCAPLUS <<LOGINID::20080805>>
DN 135:236076
TI The preparation and use of antibodies to biologically active 1,3;1,6-. beta.-D-glucan, translam
AU Shevchenko, N. M.; Zvyagintseva, T. N.; Ivancha, L. N.; Gorbach, V. I.
CS Tikhookean. Inst. Bioorg. Khim., DVO RAN, Vladivostok, 690022, Russia
SO Biotekhnologiya (2000), (6), 3-10
CODEN: BTKNEZ; ISSN: 0234-2758
PB Biotekhnologicheskaya Akademiya RF
DT Journal
LA Russian

L6 ANSWER 4 OF 17 HCAPLUS COPYRIGHT 2008 ACS on STN
TI Solubilized cell wall β -glucan, CSBG, is an epitope of Candida immune mice
AB Antibody to β -glucan is generally difficult to produce in mice. The authors have recently developed a protocol to obtain a soluble Candida spp. β-(1→3)-D-Glucan (CSBG) by sodium hypochlorite (NaClO) oxidation and subsequent DMSO (Me2SO) extraction CSBG is composed mainly of β-(1→3) and β-(1→6)-glucosidic linkages with a small amount of branch. In this paper, mice were immunized with Candida albicans and the specificity of the resulting sera to CSBG was examined by ELISA. Using CSBG coated plate, sera of the Candida immune mice showed higher reactivity than non-immune, normal mice and the reactivity was neutralized by adding soluble CSBG as a competitor. However, the reactivity could not be neutralized by a β-(1→6) branched β -(1→3)- glucan, grifolan. Similar specificity of the sera was obtained by com. available β -glucan particle, zymosan or zymocel, immune mice. These facts strongly suggested that CSBG included epitopes of the specific antibody in Candida immune mice.

AN 2000:311223 HCAPLUS <<LOGINID::20080805>>
DN 133:72623
TI Solubilized cell wall β -glucan, CSBG, is an epitope of Candida immune mice
AU Uchiyama, Michiharu; Ohno, Naohito; Miura, Noriko N.; Adachi, Yoshiyuki; Tamura, Hiroshi; Tanaka, Shigenori; Yadomae, Toshiro
CS Laboratory for Immunopharmacology of Microbial Products, School of Pharmacy, Tokyo University of Pharmacy and Life Science, Tokyo, 192-0392, Japan
SO Biological & Pharmaceutical Bulletin (2000), 23(5), 672-676
CODEN: BPBLEO; ISSN: 0918-6158
PB Pharmaceutical Society of Japan
DT Journal
LA English
RE.CNT 26 THERE ARE 26 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L6 ANSWER 5 OF 17 HCAPLUS COPYRIGHT 2008 ACS on STN
TI Enzyme immunoassay system for estimating the ultrastructure of (1,6)-branched (1,3)-β-glucans
AB A sandwich-type enzyme immunoassay (EIA) system for quantifying branched (1,3)-β-glucans was established. A polyclonal antibody was purified with antigen-conjugated aminocellulofine and labeled with biotin to be used as the detection antibody. The reactivity of the antibody was restricted to only (1,6)-branched (1,3)-β-glucans. Mol. weight dependency of (1,6)-branched (1,3)-β -glucan in the reactivity was also observed Alkaline-treated (1,6)-branched (1,3)-.beta .-glucan which was reported to be a single helical conformer, showed a lower absorbance compared to the untreated triple helix conformer. The conformational alteration of the single helix to the triple helix was produced by heating for 15 min at 100°C. The results suggest that EIA has higher reactivity to the triple helical ultrastructure of (1,6)-branched (1,3)-β-glucans, and can be applied to estimate the conformational changes of (1,6)-branched (1,3)-β-glucans.
AN 1999:390968 HCAPLUS <<LOGINID::20080805>>
DN 131:181881
TI Enzyme immunoassay system for estimating the ultrastructure of (1,6)-branched (1,3)-β-glucans
AU Adachi, Y.; Miura, N. N.; Ohno, N.; Tamura, H.; Tanaka, S.; Yadomae, T.
CS Laboratory for Immunopharmacology of Microbial products, Tokyo University of Pharmacy and Life Science, Tokyo, 192-0392, Japan
SO Carbohydrate Polymers (1999), 39(3), 225-229
CODEN: CAPOD8; ISSN: 0144-8617
PB Elsevier Science Ireland Ltd.
DT Journal
LA English
RE.CNT 21 THERE ARE 21 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L6 ANSWER 6 OF 17 HCAPLUS COPYRIGHT 2008 ACS on STN
TI PGG-Glucan, a soluble β -(1,3)-glucan, enhances the oxidative burst response, microbicidal activity, and activates an NF-κB-like factor in human PMN: Evidence for a glycosphingolipid β -(1,3)-glucan receptor
AB PGG-Glucan, a soluble β -(1,6)-branched β-(1,3)-linked glucose homopolymer derived from the cell wall of the yeast Saccharomyces cerevisiae, is an immunomodulator which enhances leukocyte anti-infective activity and enhances myeloid and megakaryocyte progenitor proliferation. Incubation of human whole blood with PGG-Glucan

significantly enhanced the oxidative burst response of subsequently isolated blood leukocytes to both soluble and particulate activators in a dose-dependent manner, and increased leukocyte microbicidal activity. No evidence for inflammatory cytokine production was obtained under these conditions. Electrophoretic mobility shift assays demonstrated that PGG-Glucan induced the activation of an NF-κB-like nuclear transcription factor in purified human neutrophils. The binding of 3H-PGG-Glucan to human leukocyte membranes was specific, concentration-dependent, saturable, and high affinity (Kd.apprx.6 nM). A monoclonal antibody specific to the glycosphingolipid lactosylceramide was able to inhibit activation of the NF-κB-like factor by PGG-Glucan, and ligand binding data, including polysaccharide specificity, suggested that the PGG-Glucan binding moiety was lactosylceramide. These results indicate that PGG-Glucan enhances neutrophil anti-microbial functions and that interaction between this β -glucan and human neutrophils is mediated by the glycosphingolipid lactosylceramide present at the cell surface.

AN 1999:112996 HCAPLUS <<LOGINID::20080805>>
DN 130:351132
TI PGG-Glucan, a soluble β -(1,3)-glucan, enhances the oxidative burst response, microbicidal activity, and activates an NF-κB-like factor in human PMN: Evidence for a glycosphingolipid β -(1,3)-glucan receptor
AU Wakshull, Eric; Brunke-Reese, Deborah; Lindermuth, Johanna; Fisette, Leslie; Nathans, Robin S.; Crowley, John J.; Tufts, Jeffrey C.; Zimmerman, Janet; Mackin, William; Adams, David S.
CS Department of Biology, Alpha-Beta Technology, Worcester, MA, 01605, USA
SO Immunopharmacology (1999), 41(2), 89-107
CODEN: IMMUDP; ISSN: 0162-3109
PB Elsevier Science B.V.
DT Journal
LA English
RE.CNT 89 THERE ARE 89 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L6 ANSWER 7 OF 17 HCAPLUS COPYRIGHT 2008 ACS on STN
TI Adjuvant effect of grifolan on antibody production in mice
AB The effects of grifolan (GRN), a gel-forming (1→6)- branched (1→3)- β -D-glucan, on antibody production were examined Sera from mice that were injected with GRN and trinitrophenyl ovalbumin (TNP-OVA) i.p. showed a significantly increased level of anti-TNF IgG. However, injection of TNP-OVA alone showed a lower antibody level. Two hundred fifty μg of GRN and 10 μg of TNP-OVA gave the maximum production of anti-TNP antibody. Enhanced antibody production was also observed in the culture supernatant of splenocyte obtained from GRN-administered mice. The culture supernatant contained a significant amount of nitric oxide (NO) in the case of GRN-administered mice. To observe the effect of NO on the antibody production induced by GRN, N-monomethyl arginine (NMMA), an inhibitor of NO synthetase, was added to the splenocyte cultures. The antibody level of supernatants containing NMMA was higher than that of control supernatants. These results suggest that GRN can enhance antibody production and that NO induced by stimulation with GRN concomitantly with antibody production is a neg. factor on the adjuvant activity. Inhibition of NO may increase the adjuvant effect of GRN.

AN 1998:615273 HCAPLUS <<LOGINID::20080805>>
DN 129:325861
OREF 129:66283a
TI Adjuvant effect of grifolan on antibody production in mice

AU Adachi, Yoshiyuki; Suzuki, Yoko; Ohno, Naohito; Yadomae, Toshiro
CS Lab. Immunopharmacology Microbial Products, School Pharmacy, Tokyo Univ. Pharmacy & Life Sci., Tokyo, 192-0392, Japan
SO Biological & Pharmaceutical Bulletin (1998), 21(9), 974-977
CODEN: BPBLEO; ISSN: 0918-6158
PB Pharmaceutical Society of Japan
DT Journal
LA English
RE.CNT 30 THERE ARE 30 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L6 ANSWER 8 OF 17 HCAPLUS COPYRIGHT 2008 ACS on STN
TI Activation of murine Kupffer cells by administration of a gel-forming (1→3)- β -D-glucan from Grifola frondosa
AB A branched-type, gel-forming (1→3)- β -D-glucan, grifolan (GRN), was administered i.v. to mice. GRN binding to Kupffer cells was detected by an immunohistochem. technique using anti-GRN antibody. A kinetic study of the activation of Kupffer cells revealed that GRN enhanced the production of cytokines and NO 4-7 days after the administration. Similar effects were produced by adding GRN in to Kupffer cell cultures in vitro. The cytostatic activity of Kupffer cells against murine lymphoma EL-4 was also augmented by GRN, with a time course similar to that of NO production The cytostatic activity was reduced by adding an inhibitor of NO synthase, implying that the cytostatic activity of Kupffer cells against EL-4 was dependent on NO. The administration of GRN increased the expression of CD11b, a . beta.-glucan receptor, on Kupffer cells after 7 days. The data suggest that GRN activates murine Kupffer cells to enhance the production of cytokines and NO oxide, and that the activation requires 4-7 days after administration.
AN 1998:226577 HCAPLUS <<LOGINID::20080805>>
DN 129:275
OREF 129:67a,70a
TI Activation of murine Kupffer cells by administration of a gel-forming (1→3)- β -D-glucan from Grifola frondosa
AU Adachi, Yoshiyuki; Ohno, Naohito; Yadomae, Toshiro
CS Laboratory of Immunopharmacology of Microbial Products, Tokyo University of Pharmacy and Life Science, Tokyo, 192-03, Japan
SO Biological & Pharmaceutical Bulletin (1998), 21(3), 278-283
CODEN: BPBLEO; ISSN: 0918-6158
PB Pharmaceutical Society of Japan
DT Journal
LA English
RE.CNT 25 THERE ARE 25 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L6 ANSWER 9 OF 17 HCAPLUS COPYRIGHT 2008 ACS on STN
TI Polymeric cephalosporin prodrugs for administration with β-lactamase-antibody conjugates as antitumor drugs
AB Antitumor drugs are delivered to tumor cells by the administration of a tumor-selective antibody-β-lactamase conjugate that binds to tumor cells, and the addnl. administration of a novel polymeric cephalosporin prodrug that is converted at the tumor site, in the presence of the antibody-β-lactamase, to an active cytotoxic drug for enhanced selective killing of tumor cells. The polymeric cephalosporin prodrug preferably contains a PEG or branched PEG moiety. Thus, 2 Fab' fragments of monoclonal antibody L6, which binds to antigens on the H2981 human lung adenocarcinoma cell line, were attached to each mol. of Enterobacter cloacae β-lactamase. A condensate of 7-aminocephalosporin-doxorubicin with the N-hydroxysuccinimide ester of α-methoxy-PEG ω-(2-carboxyethyl)

ether. This condensate was relatively nontoxic to H2981 cells in vitro (IC50 = 80 μM), but was considerably more toxic to cells which had been pretreated with the β-lactamase- antibody conjugate.

AN 1997:67293 HCAPLUS <<LOGINID::20080805>>
DN 126:79945
OREF 126:15361a,15364a
TI Polymeric cephalosporin prodrugs for administration with β-lactamase-antibody conjugates as antitumor drugs
IN Senter, Peter D.
PA Bristol-Myers Squibb Company, USA
SO Eur. Pat. Appl., 35 pp.
CODEN: EPXXDW
DT Patent
LA English
FAN.CNT 1

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI EP 745390	A2	19961204	EP 1996-108570	19960530 <--
EP 745390	A3	19990310		
R: AT, BE, CH, DE, DK, ES, FI, FR, GB, GR, IE, IT, LI, LU, MC, NL, PT, SE				
CA 2177644	A1	19961201	CA 1996-2177644	19960529 <--
JP 08325270	A	19961210	JP 1996-135153	19960529 <--
PRAI US 1995-460152	A	19950531 <--		

L6 ANSWER 10 OF 17 HCAPLUS COPYRIGHT 2008 ACS on STN
TI Immunostimulating activity and characterization of polysaccharides from mycelium of Phellinus linteus
AB Hot-water extract, fraction (Fr.) 1, of Phellinus linteus mycelium was fractionated into Fr. 2, 3, 4,and 5 by the difference of solubility in ethanol. The polysaccharide fractions were studied for their immunostimulating activity on in vitro T-independent polyclonal antibody response to trinitrophenyl-haptened SRBC (sheep red blood cell). Fr. 4 with the highest immunostimulating activity was subjected to DEAE-cellulose ion exchange chromatog. and gave five fractions, 4-I, II, III, IV, and V. The in vitro immunostimulating assay of the five fractions showed that 4-I and 4-III had a similar activity to that of LPS but the other fractions had low activity. By analyses of chemical composition and HPLC, all fractions obtained were found to be heteropolysaccharide-protein complexes. The mol. wts. ranged from 9,000 to 15,000. Sugar analyses showed that glucose, galactose, mannose, arabinose, and xylose were the main component. Uronic acid and amino sugar were also detected in the fractions. It should be noted that the mol. weight (15,000) of 4-III was very small and the structure of 4-III may be different from the known immunostimulating branched β -(1→3)-glucan.
AN 1996:519609 HCAPLUS <<LOGINID::20080805>>
DN 125:216474
OREF 125:40355a,40358a
TI Immunostimulating activity and characterization of polysaccharides from mycelium of Phellinus linteus
AU Lee, Jae Hoon; Cho, Soo-Muk; Song, Kyung-Sik; Han, Sang-Bae; Kim, Hwan-Mook; Hong, Nam-Doo; Yoo, Ick-Dong
CS Korean Research Institute Bioscience and Biotechnology, Korea Institute Science and Technology, Taejon, 305-600, S. Korea
SO Journal of Microbiology and Biotechnology (1996), 6(3), 213-218
CODEN: JOMBES; ISSN: 1017-7825
PB Korean Society for Applied Microbiology
DT Journal
LA English

L6 ANSWER 11 OF 17 HCAPLUS COPYRIGHT 2008 ACS on STN
TI Interrelation of structure and antitumor effects of fungal (1→3) β-D-glucans.
AB In the last 25 yr chemical and pharmacol. studies have been focused on the non-cytotoxic, immunomodulating polysaccharides. Yeast and related fungal (1→3)-β-D-glucans, especially, those having appropriate O-6-β-D-glucosyl branches (db, 1/3 to 1/5) exhibited strong antitumor effects, and can be used as an immnumostimulator in cancer therapy. Such antitumor effects may be due to the triple helix of the backbone; (1→6)- β -glucan of lichen and also synthetic branched (1→4)-β-D-glucans were inactive. In addition, our extensive studies on the structure-activity relationship using various branched (1→3)-β-D-glucans (db, 1/25 - 3/4) showed that the distribution of the branches along the backbone and their mol. shapes may also play a role in expression of antitumor activity, as indicated by modification of the side chains. We will discuss interrelation of structure and antitumor effects of immunomodifying glucans, e.g, an exocellular glucan of Pestalotia sp (db, 3/5), and a highly active glucan (db. 1/4) from Volvariella volvaceas, and also antibody specificities of Volvariella glucan.
AN 1996:412276 HCAPLUS <<LOGINID::20080805>>
TI Interrelation of structure and antitumor effects of fungal (1→3) β-D-glucans.
AU Misaki, A.; Kakuta, M.; Kishida, Etsu
CS Faculty Human Life Science, Osaka City University, Sumiyoshi, 558, Japan
SO Book of Abstracts, 212th ACS National Meeting, Orlando, FL, August 25-29 (1996), CARB-042 Publisher: American Chemical Society, Washington, D. C.
CODEN: 63BFAF
DT Conference; Meeting Abstract
LA English

L6 ANSWER 12 OF 17 HCAPLUS COPYRIGHT 2008 ACS on STN
TI Effect of structurally different yeast β-glucans on immune responses in Atlantic salmon (Salmo salar L.)
AB The immunostimulatory effects of different yeast β-glucans in Atlantic salmon were studied in three sets of expts. First, the different β-glucans were assessed for their ability to induce an increase in blood lysozyme activity after i.p. injection. Second, the same glucans were included in an exptl. furunculosis vaccine, where their adjuvant effects on antibody response against the bacterial antigen were examined Finally, the ability of the glucans to prime the respiratory burst response of salmon macrophages was investigated. In an earlier study it was demonstrated that of two different yeast β-glucans, Macro-Gard (previously known as M-Glucan) was significantly more potent in protecting Atlantic salmon against bacterial pathogens than the other called DL-Glucan. The present study showed that the principal structural differences between these two yeast β-glucans were the presence of β-1,6-linked chains in MacroGard which were absent in DL-Glucan, and the more frequent branching in MacroGard compared to DL-Glucan. With respect to immunostimulatory effects, MacroGard was more effective in inducing responses than DL-Glucan in all three sets of expts. By studying the effects of MacroGard particles treated chemical or enzymically to remove β-1,6-linkages, the authors found that the β-1,6-linked chains did not seem to be important for the immunostimulatory effect. It was demonstrated that the majority of side chains in MacroGard were β-1,3-linked and, furthermore, the results indicated that the number of β-1,3-linked side chains may be decisive for the immunostimulatory effect of yeast β -glucan in Atlantic salmon.
AN 1996:125403 HCAPLUS <<LOGINID::20080805>>
DN 124:198499

OREF 124:36631a,36634a
TI Effect of structurally different yeast β-glucans on immune responses in Atlantic salmon (Salmo salar L.)
AU Engstad, Rolf E.; Robertsen, Boerre
CS Norwegian College Fishery Science, University Tromso, Tromso, N-9037, Norway
SO Journal of Marine Biotechnology (1995), 3(1-3, Proceedings of the Third International Marine Biotechnology Conference, 1994), 203-7
CODEN: JMBOEW; ISSN: 0941-2905
PB Springer
DT Journal
LA English

L6 ANSWER 13 OF 17 HCAPLUS COPYRIGHT 2008 ACS on STN
TI Straw mushroom, fukurotake, Volvariella volvacea
AB A review with 14 listed refs. on the systematic fractionation and structural diversity of branched (1→3)- β - glucan of fukurotake, chemical modification in relation to immunomodulating mechanism of the glucans, antibodies to the glucans and their application in studies of neoplasm inhibition.
AN 1995:536205 HCAPLUS <<LOGINID::20080805>>
DN 123:141915
OREF 123:25281a,25284a
TI Straw mushroom, fukurotake, Volvariella volvacea
AU Misaki, Akira; Kishida, Etsu
CS Osaka City University, Ashiya, 659, Japan
SO Food Reviews International (1995), 11(1), 219-23
CODEN: FRINEL; ISSN: 8755-9129
DT Journal; General Review
LA English

L6 ANSWER 14 OF 17 HCAPLUS COPYRIGHT 2008 ACS on STN
TI Preparation and antigen specificity of an anti-(1→3)- .beta .-D-glucan antibody
AB Antibody for (1→6)- branched (1→3)-. beta.-D-glucan was prepared using rodents. An antitumor (1→6)-β-monoglucosyl branched (1→3)-. beta.-D-glucan (GRN: grifolan) was conjugated with bovine serum albumin and used as an immunogen. The antibody titer in serum was determined by ELISA using biotin-conjugated GRN. Administration of the antigen raised the antibody titer only in the rabbit, with mouse and rat showing no significant antibody titer for the glucan. The antigen specificity of the anti-GRN antibody was determined by competitive ELISA. The rabbit anti-GRN antibody bound to structurally related antitumor (1→6)- branched (1→3)-β-D-glucans such as lentinan, schizophyllan and SSG, whereas it did not react with linear (1→3)-. beta.-D-glucan, curdlan or GRN-derivs. obtained by periodate-oxidation and Smith degradation These facts strongly suggest that the hapten site of the antibody was the monoglucosyl branched moiety of (1→3)- β -D-glucan . These indicate that this antibody would be a useful probe for the detection of (1→6)- branched antitumor glucans administered to the host.
AN 1995:437428 HCAPLUS <<LOGINID::20080805>>
DN 122:211690
OREF 122:38669a,38672a
TI Preparation and antigen specificity of an anti-(1→3)- .beta .-D-glucan antibody
AU Adachi, Yoshiyuki; Ohno, Naohito; Yadomae, Toshiro

CS Lab. Immunopharmacology Microbial Products, Tokyo College Pharmacy, Tokyo, 192-03, Japan
SO Biological & Pharmaceutical Bulletin (1994), 17(11), 1508-12
CODEN: BPBLEO; ISSN: 0918-6158
PB Pharmaceutical Society of Japan
DT Journal
LA English

L6 ANSWER 15 OF 17 HCAPLUS COPYRIGHT 2008 ACS on STN
TI Monoclonal antibody to proteoglycan derived from Grifola frondosa (Maitake)
AB A murine monoclonal antibody (MAb) was prepared by immunizing BALB/c mice with a proteoglycan fraction derived from Grifola frondosa (Maitake mushroom), followed by the hybridization of spleen cells with mouse myeloma cells. The MAb (subclass; IgG2b), designated MPG2, reacted with schizophyllan (SPG), curdlan, scleroglucan, laminarin and lentinan, but not with dextran, pullulan, mannan and xylan. Immunohistochem. (ABC-GO method) showed that MAb MPG2 reacted with lysosomal proteoglycan and (1→6)-β- branched laminaritriose taken up by rabbit peritoneal macrophages. This MAb may recognize mainly (1→3)- β -D-glucan, may be useful for determining the immunol. properties of Grifola frondosa-derived proteoglycan.
AN 1994:455547 HCAPLUS <<LOGINID::20080805>>
DN 121:55547
OREF 121:9991a,9994a
TI Monoclonal antibody to proteoglycan derived from Grifola frondosa (Maitake)
AU Hirata, Akio; Adachi, Yoshiyuki; Itoh, Wataru; Komoda, Makiko; Tabata, Kengo; Sugawara, Isamu
CS Res. Lab., Taito Co., Ltd., Kobe, 653, Japan
SO Biological & Pharmaceutical Bulletin (1994), 17(4), 539-42
CODEN: BPBLEO; ISSN: 0918-6158
DT Journal
LA English

L6 ANSWER 16 OF 17 HCAPLUS COPYRIGHT 2008 ACS on STN
TI Macrophage-targeted polysaccharide microcapsules for antigen and drug delivery
AB Adjuvax, having a glucan structure, is effectively targeted to the macrophage via the β -glucan receptor. Diffusional release of entrapped proteins and peptides from the Adjuvax microcapsule was dependent on mol. branching within the capsule matrix and ligand mol. weight Covalent crosslinking of peptides or proteins to the Adjuvax decreased the release rate to the extent that release is dependent on in vivo biodegrdn. of the crosslinking bonds and the glucan capsule. In vivo studies with antigen loaded Adjuvax, crosslinked Adjuvax-antigen conjugates, and CFA show that the formulations elicit comparable antibody response. Adjuvax did not cause adverse side-effects, such as granulomas at the injection site.
AN 1990:637632 HCAPLUS <<LOGINID::20080805>>
DN 113:237632
OREF 113:39955a,39958a
TI Macrophage-targeted polysaccharide microcapsules for antigen and drug delivery
AU Ostroff, G. R.; Easson, D. D., Jr.; Jamas, S.
CS Alpha-Beta Technol., Inc., Worcester, MA, 01605, USA
SO Polymer Preprints (American Chemical Society, Division of Polymer Chemistry) (1990), 31(2), 200-1
CODEN: ACPPAY; ISSN: 0032-3934
DT Journal
LA English

L6 ANSWER 17 OF 17 HCAPLUS COPYRIGHT 2008 ACS on STN
TI Preparation and immunochemical characterization of antibody to branched β-(1 → 3)-D-glucan of Volvariella volvacea, and its use in studies of antitumor actions
AB Partially purified antibody specific to the antitumor polysaccharide O-6 branched β-(1→3)-D-glucan (VVG), isolated from the cold alkali-extract of the fruiting body of V. volvaceae was obtained by immunization of rabbits with the conjugate of VVG with bovine serum albumin (BSA). Hapten inhibition studies of the precipitation reaction of the antibody and the β -D- glucan with various (1→6)-linked and branched (1→3)-linked β-D-gluco-oligosaccharides showed that the antibody recognizes the sequence involving the non-reducing terminal glucosyl groups and possibly the branch points. The VVG antibody also interacted with other branched β(1→3)-D-glucans, but the reactivity differed depending on the degree of branching. In connection with the specificity of the antibody, the antibody to glucan polyalc. (VVG polyol), raised by immunization with VVG polyol-BSA, recognized mainly the polyol groups in the side chains and a part of (1→3)-linked glucose residues in the main chain. In relation to the antitumor action of VVG on mouse-implanted Sarcoma 180, the serum of the mouse, after 12-23 h, i.p. administration of VVG, had potent antitumor activity in another group of tumor-bearing mice. When this serum was put onto the antibody -conjugated immunoadsorbent column, the tumor-inhibiting factor was mostly retained on the column, suggesting that the factor is closely related to the glucan or glucan conjugate. Thus, the antibody-conjugated affinity column was shown to be useful in studies of the mechanism of antitumor action.
AN 1989:572099 HCAPLUS <<LOGINID::20080805>>
DN 111:172099
OREF 111:28641a,28644a
TI Preparation and immunochemical characterization of antibody to branched β-(1 → 3)-D-glucan of Volvariella volvacea, and its use in studies of antitumor actions
AU Kishida, Etsu; Sone, Yoshiaki; Shibata, Satoaki; Misaki, Akira
CS Fac. Sci. Liv., Osaka City Univ., Osaka, 558, Japan
SO Agricultural and Biological Chemistry (1989), 53(7), 1849-59
CODEN: ABCHA6; ISSN: 0002-1369
DT Journal
LA English

=> file stnguide

COST IN U.S. DOLLARS	SINCE FILE ENTRY	TOTAL SESSION
FULL ESTIMATED COST	57.54	57.75

DISCOUNT AMOUNTS (FOR QUALIFYING ACCOUNTS)	SINCE FILE ENTRY	TOTAL SESSION
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     (FILE 'HOME' ENTERED AT 10:47:05 ON 05 AUG 2008)

     FILE 'HCAPLUS' ENTERED AT 10:47:29 ON 05 AUG 2008
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L2        135487 S BRANCHED OR BRANCHING
L3        355831 S ANTIBODY OR IMMUNOGLOBULIN
L4           503 S L1 AND L2
L5            32 S L1 AND L2 AND L3
L6            17 S L5 AND (PY<2002 OR AY<2002 OR PRY<2002)

     FILE 'STNGUIDE' ENTERED AT 10:49:02 ON 05 AUG 2008

=> log hold
COST IN U.S. DOLLARS                            SINCE FILE      TOTAL
                                                     ENTRY    SESSION
FULL ESTIMATED COST                                   0.06      57.81

DISCOUNT AMOUNTS (FOR QUALIFYING ACCOUNTS)      SINCE FILE      TOTAL
                                                     ENTRY    SESSION
CA SUBSCRIBER PRICE                                   0.00     -13.60

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COST IN U.S. DOLLARS                            SINCE FILE      TOTAL
                                                     ENTRY    SESSION
FULL ESTIMATED COST                                   0.06      57.81

DISCOUNT AMOUNTS (FOR QUALIFYING ACCOUNTS)      SINCE FILE      TOTAL
                                                     ENTRY    SESSION
CA SUBSCRIBER PRICE                                   0.00     -13.60

=> file hcaplus
COST IN U.S. DOLLARS                            SINCE FILE      TOTAL
                                                     ENTRY    SESSION
FULL ESTIMATED COST                                   0.06      57.81

DISCOUNT AMOUNTS (FOR QUALIFYING ACCOUNTS)      SINCE FILE      TOTAL
                                                     ENTRY    SESSION
CA SUBSCRIBER PRICE                                   0.00     -13.60

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FILE COVERS 1907 - 5 Aug 2008 VOL 149 ISS 6
FILE LAST UPDATED: 4 Aug 2008 (20080804/ED)

HCAplus now includes complete International Patent Classification (IPC)
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This file contains CAS Registry Numbers for easy and accurate
substance identification.

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=> s lentinan and schizophyllan and grifolan and psk
           833 LENTINAN
           596 SCHIZOPHYLLAN
            90 GRIFOLAN
           851 PSK
L7           0 LENTINAN AND SCHIZOPHYLLAN AND GRIFOLAN AND PSK

=> s lentinan and schizophyllan
           833 LENTINAN
           596 SCHIZOPHYLLAN
L8          92 LENTINAN AND SCHIZOPHYLLAN

=> s l8 and psk
           851 PSK
L9           5 L8 AND PSK

=> d l9 1-5 ti abs bib

L9   ANSWER 1 OF 5  HCAPLUS  COPYRIGHT 2008 ACS on STN
TI   Mushroom polysaccharides in human health care
AB   A review.  Medicinal mushrooms have been a part of Oriental medicines for
     hundreds of years as being beneficial for health.  The number of mushrooms on
     earth is estimated at 140,000; yet maybe only 10% (approx. 14,000 named
     species) are known.  In 2003, the value of world mushroom production and
     medicinal mushroom products was estimated to be worth approx. 21 billion US
     dollars.  Mushrooms comprise a vast and yet largely untapped source of
     powerful new pharmaceutical products.  Some of the recently isolated and
     identified substances from higher Basidiomycetes mushroom origin possess
     promising antitumor, immune-modulating, antioxidant, cardiovascular,
     antihypercholesterolemic, antiviral, antibacterial, antiparasitic,
     hepatoprotective, and antidiabetic effects.  Many if not all
     Basidiomycetes mushrooms contain biol. active polysaccharides in fruit
     bodies, cultured mycelium, and culture broth.  The data about mushroom
     polysaccharides are summarized for 651 species and 7 infraspecific taxa
     from 182 genera of higher Hetero- and Homobasidiomycetes.  These
     polysaccharides are of different chemical composition; the main ones comprise
the
     group of β-glucans.  β-(1 → 3) Linkages in the main chain
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of the glucan and further β-(1 → 6) branch points are needed for their antitumor action. Mushroom-derived polysaccharides are now considered as compds. which are able to modulate animal and human responses and to inhibit certain tumor growth. While mushroom glucans are mostly non-cytotoxic, the same is not true of glucan-protein complexes. All of these compds. have been shown to potentiate the host's innate (non-specific) and acquired (specific) immune responses and activate many kinds of immune cells that are important for the maintenance of homeostasis, e.g. host cells such as cytotoxic macrophages, monocytes, neutrophils, natural killer cells, dendritic cells, and chemical messengers (cytokines such as interleukines, interferons, colony-stimulating factors) that trigger and complement acute phase responses. Also, they can be considered as multicytokine inducers, able to induce gene expression of various immunomodulatory cytokines and cytokine receptors. Lymphocytes governing antibody production (β-cells) and cell-mediated cytotoxicity (T-cells) are also stimulated. However, for most of the mushroom-derived antitumor compds., a detailed understanding of their exact mode of action is yet to be elucidated. High mol. weight glucans appear to be more effective than those of low mol. weight Chemical modification is often carried out to improve the antitumor activity of polysaccharides and their clin. qualities (mostly water solubility). The main procedures used for chemical improvement are: Smith degradation (oxydo-reducto-hydrolysis), formolysis, and carboxymethylation. Most of the antitumor clin. evidence is from com. polysaccharides lentinan, PSK (krestin), and schizophyllan. All of these polysaccharides have been through Phase I, II and III clin. trials mainly in Japan and China but not in the USA (in many cases, the stds. of these trials may not meet current western regulatory requirements). The polysaccharides of some other promising medicinal mushroom species (Agaricus brasiliensis S. Wasser et al. Phellinus linteus (Berk. et Curt.) Teng, Grifola frondosa (Dicks.:Fr.) S.F.Gray, Tremella mesenterica Retz: Fr., Hypsizygus marmoreus (Peck) Bigel., Flammulina velutipes (Curt.:Fr.) P.Karst. also exhibit pos. results.). Their activity is especially beneficial in clinics when used in conjunction with chemotherapy. Mushroom polysaccharides prevent oncogenesis, show direct antitumor activity against various allogeneic and syngeneic tumors and prevent tumor metastasis. Polysaccharides from mushrooms do not attack cancer cells directly, but produce their antitumor effects by activating different immune responses in the host. The antitumor action of polysaccharides requires an intact T-cell component; their activity is mediated through a thymus-dependent immune mechanism. Practical application is dependent not only on biol. properties, but also on biotechnol. availability.

AN 2007:923751 HCAPLUS <<LOGINID::20080805>>
DN 147:356098
TI Mushroom polysaccharides in human health care
AU Wasser, Solomon P.; Didukh, Marina Ya.
CS Institute of Evolution, University of Haifa, Haifa, 31905, Israel
SO Biodiversity of Fungi (2005), 289-328. Editor(s): Deshmukh, S. K.; Rai, M. K. Publisher: Science Publishers, Inc., Enfield, N. H.
CODEN: 69JRPC; ISBN: 978-1-57808-368-8
DT Conference; General Review
LA English
RE.CNT 173 THERE ARE 173 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L9 ANSWER 2 OF 5 HCAPLUS COPYRIGHT 2008 ACS on STN
TI Medicinal mushrooms: past, present and future
AB A review and discussion. Medicinal mushrooms have been known in Oriental medicine for hundreds of years as beneficial for health. In 2001, the value of world mushroom production and medicinal mushroom products was estimated

to be worth approx. 18 billion US dollars. Particularly, and most important for modern medicine, they present an unlimited source for polysaccharides with antitumor and immunostimulating properties. The number of mushrooms on the Earth is estimated at 140.000, yet maybe only 10% (approx. 14.000 named species) are known. Mushrooms make up a vast and yet largely untapped source of powerful new pharmaceutical products. Many if not all Basidiomycetes mushrooms contain biol. active polysaccharides in fruit bodies, cultured mycelium, and culture broth. The data about mushroom polysaccharides are summarized for 651 species and 7 intraspecific taxa from 182 genera of higher Hetero- and Homobasidiomycetes. These polysaccharides are of different chemical composition; the main ones comprise the group of β-glucans. The β-(1→3) linkages in the main chain of the glucan and further β-(1→6) branch points are needed for their antitumor action. High mol. weight glucans appear to be more effective than those with low mol. weight Chemical modification is often done for improvement of antitumor activity of polysaccharides and their clin. qualities (mostly water solubility). Main procedures for chemical improvement are: Smith degradation (oxydo-reducto-hydrolysis), formolysis, and carboxymethylation. Most of the antitumor clin. evidence is from com. polysaccharides lentinan, PSK (krestin), and schizophyllan, but polysaccharides of some other promising medicinal mushroom species show good results as well. Their activity is especially beneficial in clinics when used in conjunction with chemotherapy. Mushroom polysaccharides prevent oncogenesis, show direct antitumor activity against various allogeneic and syngeneic tumors, and prevent tumor metastasis. Polysaccharides from mushrooms do not attack cancer cells directly, but produce their antitumor effects by activating different immune responses in the host. Antitumor action of polysaccharides requires an intact T-cell component; their activity is mediated through a thymus-dependent immune mechanism. Practical application is dependent not only on biol. properties, but also on biotechnol. availability. The present review analyzes the peculiarities of polysaccharides derived from fruiting bodies and cultured mycelium (two main ways of biotechnol. production today) in selected examples of medicinal mushrooms. Cultivation and development of edible and medicinal mushrooms can pos. generate equitable economic growth that had already an impact at national and regional levels. This impact is expected to continue increasing and expanding in the 21st century. Therefore, sustainable research and development of mushroom production and mushroom product can become a nongreen revolution.

AN 2003:29255 HCAPLUS <<LOGINID::20080805>>
DN 139:138435
TI Medicinal mushrooms: past, present and future
AU Wasser, Solomon P.; Sytnik, Konstantin M.; Buchalo, Asya S.; Solomko, Elvira F.
CS M.G. Kholodny Inst. of Bot., National Acad. of Sci. of Ukraine, Kiev, 01001, Ukraine
SO Ukrains'kii Botanichnii Zhurnal (2002), 59(5), 499-524
CODEN: UKBZAW; ISSN: 0372-4123
PB Institut Botaniki im. M. G. Kholodnogo NAN Ukraini
DT Journal; General Review
LA English
RE.CNT 144 THERE ARE 144 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L9 ANSWER 3 OF 5 HCAPLUS COPYRIGHT 2008 ACS on STN
TI Medicinal mushrooms as a source of antitumor and immunomodulating polysaccharides
AB A review and discussion. The number of mushrooms on Earth is estimated at 140,000, yet maybe only 10% (approx. 14,000 named species) are known.

Mushrooms comprise a vast and yet largely untapped source of powerful new pharmaceutical products. In particular, and most importantly for modern medicine, they represent an unlimited source of polysaccharides with antitumor and immunostimulating properties. Many, if not all, Basidiomycetes mushrooms contain biol. active polysaccharides in fruit bodies, cultured mycelium, culture broth. Data on mushroom polysaccharides have been collected from 651 species and 7 infraspecific taxa from 182 genera of higher Hetero- and Homobasidiomycetes. These polysaccharides are of different chemical composition, with most belonging to the group of β-glucans; these have β-(1→3) linkages in the main chain of the glucan and addnl. β-(1→6) branch points that are needed for their antitumor action. High mol. weight glucans appear to be more effective than those of low mol. weight Chemical modification is often carried out to improve the antitumor activity of polysaccharides and their clin. qualities (mostly water solubility). The main procedures used for chemical improvement are: Smith degradation (oxydo-reducto-hydrolysis), formolysis, and carboxymethylation. Most of the clin. evidence for antitumor activity comes from the com. polysaccharides lentinan, PSK (krestin), and schizophyllan, but polysaccharides of some other promising medicinal mushroom species also show good results. Their activity is especially beneficial in clinics when used in conjunction with chemotherapy. Mushroom polysaccharides prevent oncogenesis, show direct antitumor activity against various allogeneic and syngeneic tumors, and prevent tumor metastasis. Polysaccharides from mushrooms do not attack cancer cells directly, but produce their antitumor effects by activating different immune responses in the host. The antitumor action of polysaccharides requires an intact T-cell component; their activity is mediated through a thymus-dependent immune mechanism. Practical application is dependent not only on biol. properties, but also on biotechnol. availability. The present review analyzes the peculiarities of polysaccharides derived from fruiting bodies and cultured mycelium (the two main methods of biotechnol. production today) in selected examples of medicinal mushrooms.

AN 2002:877847 HCAPLUS <<LOGINID::20080805>>
DN 139:122484
TI Medicinal mushrooms as a source of antitumor and immunomodulating polysaccharides
AU Wasser, S. P.
CS Institute of Evolution, University of Haifa, Haifa, 31905, Israel
SO Applied Microbiology and Biotechnology (2002), 60(3), 258-274
CODEN: AMBIDG; ISSN: 0175-7598
PB Springer-Verlag
DT Journal; General Review
LA English
RE.CNT 140 THERE ARE 140 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L9 ANSWER 4 OF 5 HCAPLUS COPYRIGHT 2008 ACS on STN
TI Immunomodulation and anti-cancer activity of polysaccharide-protein complexes
AB A review with 179 refs. In the last three decades, numerous polysaccharides and polysaccharide-protein complexes have been isolated from mushrooms and used as a source of therapeutic agents. The most promising biopharmacol. activities of these biopolymers are their immunomodulation and anti-cancer effects. They are mainly present as glucans with different types of glycosidic linkages such as (1→3), (1→6)-β-glucans and (1→3)-α-glucans, and as true herteroglycans, while others mostly bind to protein residues as polysaccharide-protein complexes. Three antitumor mushroom

polysaccharides, i.e. lentinan, schizophyllan and protein-bound polysaccharide (PSK, Krestin), isolated resp., from Lentinus edodes, Schizophyllum commune and Coriolus versicolor, have become large market items in Japan. Lentinan and schizophyllan are pure β-glucans, whereas PSK is a protein-bound β-glucan. A polysaccharide peptide (PSP), isolated from a strain of Coriolus versicolor in China, has also been widely used as an anti-cancer and immunomodulatory agent. Although the mechanism of their antitumor action is still not completely clear, these polysaccharides and polysaccharide-protein complexes are suggested to enhance cell-mediated immune responses in vivo and in vitro and act as biol. response modifiers. Potentiation of the host defense system may result in the activation of many kinds of immune cells that are vitally important for the maintenance of homeostasis. Polysaccharides or polysaccharide-protein complexes are considered as multi-cytokine inducers that are able to induce gene expression of various immunomodulatory cytokines and cytokine receptors. Some interesting studies focus on investigation of the relationship between their structure and antitumor activity, elucidation of their antitumor mechanism at the mol. level, and improvement of their various biol. activities by chemical modifications.

AN 2000:394568 HCAPLUS <<LOGINID::20080805>>
DN 133:129413
TI Immunomodulation and anti-cancer activity of polysaccharide-protein complexes
AU Ooi, Vincent E. C.; Liu, Fang
CS Department of Biology, The Chinese University of Hong Kong, Shatin, Hong Kong
SO Current Medicinal Chemistry (2000), 7(7), 715-729
CODEN: CMCHE7; ISSN: 0929-8673
PB Bentham Science Publishers
DT Journal; General Review
LA English
RE.CNT 179 THERE ARE 179 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L9 ANSWER 5 OF 5 HCAPLUS COPYRIGHT 2008 ACS on STN
TI Health foods and medicinal usages of mushrooms
AB A review with 30 refs. Many edible mushrooms, such as reishi, maitake, shiitake, yamabushitake, etc., are used in Japan and China to develop not only food materials but also medicines. These mushrooms can be used as highly functional food materials in dishes, concs., exts., liquor, and powdered mushrooms or mycelia. Three kinds of carcinostatic polysaccharide drugs, such as immunopotentiators (BRM, biol. response modifiers), have been developed in Japan: (a) Lentinan from the fruiting bodies of shiitake, (b) Krestin (PSK) from the cultured mycelia of kawaratake, and (c) Schizophyllan (Sonifilan) from the cultured broth products of suehirotake. Other proposed products are extrudates which seem to be promising.
AN 1995:536189 HCAPLUS <<LOGINID::20080805>>
DN 123:8069
OREF 123:1727a,1730a
TI Health foods and medicinal usages of mushrooms
AU Mizuno, Takashi; Sakai, Tadamoto; Chihara, Goro
CS Changchun College, Shizuoka University, Fujieda, 426, Japan
SO Food Reviews International (1995), 11(1), 69-81
CODEN: FRINEL; ISSN: 8755-9129
DT Journal; General Review
LA English

=> d his

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     (FILE 'HOME' ENTERED AT 10:47:05 ON 05 AUG 2008)

     FILE 'HCAPLUS' ENTERED AT 10:47:29 ON 05 AUG 2008
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L2        135487 S BRANCHED OR BRANCHING
L3        355831 S ANTIBODY OR IMMUNOGLOBULIN
L4           503 S L1 AND L2
L5            32 S L1 AND L2 AND L3
L6            17 S L5 AND (PY<2002 OR AY<2002 OR PRY<2002)

     FILE 'STNGUIDE' ENTERED AT 10:49:02 ON 05 AUG 2008

     FILE 'HCAPLUS' ENTERED AT 10:55:47 ON 05 AUG 2008
L7             0 S LENTINAN AND SCHIZOPHYLLAN AND GRIFOLAN AND PSK
L8            92 S LENTINAN AND SCHIZOPHYLLAN
L9             5 S L8 AND PSK

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COST IN U.S. DOLLARS                            SINCE FILE      TOTAL
                                                     ENTRY    SESSION
FULL ESTIMATED COST                                  17.24      75.05

DISCOUNT AMOUNTS (FOR QUALIFYING ACCOUNTS)      SINCE FILE      TOTAL
                                                     ENTRY    SESSION
CA SUBSCRIBER PRICE                                  -4.00     -17.60

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FULL ESTIMATED COST                                  17.24      75.05

DISCOUNT AMOUNTS (FOR QUALIFYING ACCOUNTS)      SINCE FILE      TOTAL
                                                     ENTRY    SESSION
CA SUBSCRIBER PRICE                                  -4.00     -17.60

=> s cancer or tumor or neopla?
        369010 CANCER
        461327 TUMOR
        554555 NEOPLA?
L10     848650 CANCER OR TUMOR OR NEOPLA?

=> s l4 and l10
L11         137 L4 AND L10
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=> s l11 and antibody
        333404 ANTIBODY
L12          10 L11 AND ANTIBODY

=> s l12 and (PY<2002 or AY<2002 or PRY<2002)
      21964543 PY<2002
       4211254 AY<2002
       3678044 PRY<2002
L13           4 L12 AND (PY<2002 OR AY<2002 OR PRY<2002)

=> d l13 1-4 ti abws bib
'ABWS' IS NOT A VALID FORMAT FOR FILE 'HCAPLUS'

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ALL --------- BIB, AB, IND, RE
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CAN --------- List of CA abstract numbers without answer numbers
CBIB -------- AN, plus Compressed Bibliographic Data
CLASS ------- IPC, NCL, ECLA, FTERM
DALL -------- ALL, delimited (end of each field identified)
DMAX -------- MAX, delimited for post-processing
FAM --------- AN, PI and PRAI in table, plus Patent Family data
FBIB -------- AN, BIB, plus Patent FAM
IND --------- Indexing data
IPC --------- International Patent Classifications
MAX --------- ALL, plus Patent FAM, RE
PATS -------- PI, SO
SAM --------- CC, SX, TI, ST, IT
SCAN -------- CC, SX, TI, ST, IT (random display, no answer numbers;
              SCAN must be entered on the same line as the DISPLAY,
              e.g., D SCAN or DISPLAY SCAN)
STD --------- BIB, CLASS

IABS -------- ABS, indented with text labels
IALL -------- ALL, indented with text labels
IBIB -------- BIB, indented with text labels
IMAX -------- MAX, indented with text labels
ISTD -------- STD, indented with text labels

OBIB -------- AN, plus Bibliographic Data (original)
OIBIB ------- OBIB, indented with text labels

SBIB -------- BIB, no citations
SIBIB ------- IBIB, no citations

HIT --------- Fields containing hit terms
HITIND ------ IC, ICA, ICI, NCL, CC and index field (ST and IT)
              containing hit terms
HITRN ------- HIT RN and its text modification
HITSTR ------ HIT RN, its text modification, its CA index name, and
              its structure diagram
HITSEQ ------ HIT RN, its text modification, its CA index name, its
              structure diagram, plus NTE and SEQ fields
FHITSTR ----- First HIT RN, its text modification, its CA index name, and
              its structure diagram
FHITSEQ ----- First HIT RN, its text modification, its CA index name, its
              structure diagram, plus NTE and SEQ fields
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KWIC -------- Hit term plus 20 words on either side
OCC --------- Number of occurrence of hit term and field in which it occurs

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ENTER DISPLAY FORMAT (BIB):ti abs bib

L13 ANSWER 1 OF 4 HCAPLUS COPYRIGHT 2008 ACS on STN
TI Polymeric cephalosporin prodrugs for administration with β-lactamase-antibody conjugates as antitumor drugs
AB Antitumor drugs are delivered to tumor cells by the administration of a tumor-selective antibody -β-lactamase conjugate that binds to tumor cells, and the addnl. administration of a novel polymeric cephalosporin prodrug that is converted at the tumor site, in the presence of the antibody-β-lactamase, to an active cytotoxic drug for enhanced selective killing of tumor cells. The polymeric cephalosporin prodrug preferably contains a PEG or branched PEG moiety. Thus, 2 Fab' fragments of monoclonal antibody L6, which binds to antigens on the H2981 human lung adenocarcinoma cell line, were attached to each mol. of Enterobacter cloacae β-lactamase. A condensate of 7-aminocephalosporin-doxorubicin with the N-hydroxysuccinimide ester of α-methoxy-PEG ω-(2-carboxyethyl) ether. This condensate was relatively nontoxic to H2981 cells in vitro (IC50 = 80 μM), but was considerably more toxic to cells which had been pretreated with the β-lactamase- antibody conjugate.
AN 1997:67293 HCAPLUS <<LOGINID::20080805>>
DN 126:79945
OREF 126:15361a,15364a
TI Polymeric cephalosporin prodrugs for administration with β-lactamase-antibody conjugates as antitumor drugs
IN Senter, Peter D.
PA Bristol-Myers Squibb Company, USA
SO Eur. Pat. Appl., 35 pp.
CODEN: EPXXDW
DT Patent
LA English
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	EP 745390	A2	19961204	EP 1996-108570	19960530 <--
	EP 745390	A3	19990310		
	R: AT, BE, CH, DE, DK, ES, FI, FR, GB, GR, IE, IT, LI, LU, MC, NL, PT, SE				
	CA 2177644	A1	19961201	CA 1996-2177644	19960529 <--
	JP 08325270	A	19961210	JP 1996-135153	19960529 <--
PRAI	US 1995-460152	A	19950531 <--		

L13 ANSWER 2 OF 4 HCAPLUS COPYRIGHT 2008 ACS on STN
TI Interrelation of structure and antitumor effects of fungal (1→3) β-D-glucans.
AB In the last 25 yr chemical and pharmacol. studies have been focused on the non-cytotoxic, immunomodulating polysaccharides. Yeast and related fungal

(1→3)-β-D-glucans, especially, those having appropriate O-6-β-D-glucosyl branches (db, 1/3 to 1/5) exhibited strong antitumor effects, and can be used as an immnumostimulator in cancer therapy. Such antitumor effects may be due to the triple helix of the backbone; (1→6)- β -glucan of lichen and also synthetic branched (1→4)-β-D-glucans were inactive. In addition, our extensive studies on the structure-activity relationship using various branched (1→3)-β-D-glucans (db, 1/25 - 3/4) showed that the distribution of the branches along the backbone and their mol. shapes may also play a role in expression of antitumor activity, as indicated by modification of the side chains. We will discuss interrelation of structure and antitumor effects of immunomodifying glucans, e.g, an exocellular glucan of Pestalotia sp (db, 3/5), and a highly active glucan (db. 1/4) from Volvariella volvaceas, and also antibody specificities of Volvariella glucan.

AN 1996:412276 HCAPLUS <<LOGINID::20080805>>
TI Interrelation of structure and antitumor effects of fungal (1→3) β-D-glucans.
AU Misaki, A.; Kakuta, M.; Kishida, Etsu
CS Faculty Human Life Science, Osaka City University, Sumiyoshi, 558, Japan
SO Book of Abstracts, 212th ACS National Meeting, Orlando, FL, August 25-29 (1996), CARB-042 Publisher: American Chemical Society, Washington, D. C.
CODEN: 63BFAF
DT Conference; Meeting Abstract
LA English

L13 ANSWER 3 OF 4 HCAPLUS COPYRIGHT 2008 ACS on STN
TI Straw mushroom, fukurotake, Volvariella volvacea
AB A review with 14 listed refs. on the systematic fractionation and structural diversity of branched (1→3)- β -glucan of fukurotake, chemical modification in relation to immunomodulating mechanism of the glucans, antibodies to the glucans and their application in studies of neoplasm inhibition.
AN 1995:536205 HCAPLUS <<LOGINID::20080805>>
DN 123:141915
OREF 123:25281a,25284a
TI Straw mushroom, fukurotake, Volvariella volvacea
AU Misaki, Akira; Kishida, Etsu
CS Osaka City University, Ashiya, 659, Japan
SO Food Reviews International (1995), 11(1), 219-23
CODEN: FRINEL; ISSN: 8755-9129
DT Journal; General Review
LA English

L13 ANSWER 4 OF 4 HCAPLUS COPYRIGHT 2008 ACS on STN
TI Preparation and immunochemical characterization of antibody to branched β-(1 → 3)-D-glucan of Volvariella volvacea, and its use in studies of antitumor actions
AB Partially purified antibody specific to the antitumor polysaccharide O-6 branched β-(1→3)-D-glucan (VVG), isolated from the cold alkali-extract of the fruiting body of V. volvaceae was obtained by immunization of rabbits with the conjugate of VVG with bovine serum albumin (BSA). Hapten inhibition studies of the precipitation reaction of the antibody and the β -D-glucan with various (1→6)-linked and branched (1→3)-linked β-D-gluco-oligosaccharides showed that the antibody recognizes the sequence involving the non-reducing terminal glucosyl groups and possibly the branch points. The VVG antibody also interacted with other branched

β(1→3)-D-glucans, but the reactivity differed depending on the degree of branching. In connection with the specificity of the antibody, the antibody to glucan polyalc. (VVG polyol), raised by immunization with VVG polyol-BSA, recognized mainly the polyol groups in the side chains and a part of (1→3)-linked glucose residues in the main chain. In relation to the antitumor action of VVG on mouse-implanted Sarcoma 180, the serum of the mouse, after 12-23 h, i.p. administration of VVG, had potent antitumor activity in another group of tumor-bearing mice. When this serum was put onto the antibody-conjugated immunoadsorbent column, the tumor -inhibiting factor was mostly retained on the column, suggesting that the factor is closely related to the glucan or glucan conjugate. Thus, the antibody-conjugated affinity column was shown to be useful in studies of the mechanism of antitumor action.

AN 1989:572099 HCAPLUS <<LOGINID::20080805>>
DN 111:172099
OREF 111:28641a,28644a
TI Preparation and immunochemical characterization of antibody to branched β-(1 → 3)-D-glucan of Volvariella volvacea, and its use in studies of antitumor actions
AU Kishida, Etsu; Sone, Yoshiaki; Shibata, Satoaki; Misaki, Akira
CS Fac. Sci. Liv., Osaka City Univ., Osaka, 558, Japan
SO Agricultural and Biological Chemistry (1989), 53(7), 1849-59
CODEN: ABCHA6; ISSN: 0002-1369
DT Journal
LA English